

# Curriculum Vitae

## GENERAL INFORMATION

Date of resumé: 23. July 2018  
Name: **Kuijper, James C. (Jim)**  
Profession: Senior consultant - Nuclear reactor physics expert  
Date of birth: 7. April 1961  
Nationality: The Netherlands  
Education level: Ph.D ("Dr.") (Applied Sciences/Nuclear Reactor Physics)  
E-mail: [kuijper@nucllic.nl](mailto:kuijper@nucllic.nl)  
LinkedIn: <https://www.linkedin.com/in/jimkuijper>  
Website: <https://www.nucllic.nl> (independent consultancy)  
Languages: Dutch (native speaker), English (full professional proficiency), German (working proficiency), French (elementary proficiency)



## PROFILE

Flexible mixture of experienced research scientist, reviewer, developer of calculation models and software, consultant, advisor, project leader, course lecturer and course developer in the field of nuclear energy technology, reactor physics and criticality safety. Experience with working in and leading of international project teams. "Oil in the machine" to help team and team members to achieve their goals. Quick and eager to acquire new knowledge and information and able to use that creatively and effectively to tackle new questions and problems. Looking forward to similar projects, activities and positions to make the difference for the peaceful use of nuclear technology in future energy systems. Currently active as independent consultant in **NUCLIC - Nuclear Innovation Consultancy**.



## EDUCATION

Institute: Interfaculty Reactor Institute - Delft University of Technology (Technische Universiteit Delft)  
Location: Delft, the Netherlands  
Period: January 1988 - May 1992  
Diploma/degree: Ph.D ("Dr.") (subject: Nuclear Reactor Physics)

Institute: Twente University of Technology (Technische Hogeschool Twente/ Universiteit Twente)  
Location: Enschede, the Netherlands  
Period: August 1979 - March 1986  
Diploma/degree: M.Sc ("Ir.") in Applied Physics (subject: Optics/Biophysics)

## KEY QUALIFICATIONS

- 28 years of research and consultancy experience in (3-D) nuclear reactor physics and space-time reactor kinetics and dynamics analyses, nuclear criticality safety and computer code development for the core physics analysis of nuclear reactor systems (MTR, PWR, BWR, HTGR).
- 20 years of experience in project management, Work Package management and (more recently) Coordination of EU/Euratom Framework Projects.
- 20 years of experience as teacher/lecturer of reactor physics, reactor kinetics and nuclear criticality safety for scientific and reactor personnel from ECN/NRG (Petten, the Netherlands) and external companies.
- 20 years of experience as member of the joint **Reactor Safety Committee** of ECN, NRG and EC/JRC-IET (Petten, the Netherlands), which advises the managements of these organisations on all matters concerning the safety of nuclear installations (reactors, laboratories, criticality safety) at the Petten research site.

## PROFESSIONAL EXPERIENCE RECORD

Institute/company: **NUCLIC** – Nuclear Innovation Consultancy / Independent Consultant  
Period: November 2014 – present  
Location: Schagen, the Netherlands  
Position: Senior consultant - Nuclear reactor physics expert – Founder  
Member of **Nuclear-21** (<https://nuclear-21.net>)

### Main duties and responsibilities:

- To provide independent review & advice, investigation, research & development and education, training & course development in the field of nuclear technology, with focus on nuclear innovation, nuclear reactor physics, fuel cycle and nuclear (criticality) safety.
- Marketing and acquisition for NUCLIC.

### Review & advice activities:

- Advisor on matters of criticality safety for COVRA (national nuclear waste processing and disposal facility of the Netherlands) [February 2017 - present]

- Euratom representative in the Generation IV International Forum VHTR Computational Methods Validation & Benchmarking Project Management Board [January 2018 - Present]
- Final reviewer of the EU Horizon 2020 project DEMOCRITOS (nuclear electric propulsion for spacecrafts) [April/May 2017]
- Member of IAEA Expert Mission to review the design and safety documents of an experimental power reactor ("RDE") in Serpong, Indonesia [November/December 2016 and October 2017]
- Author of chapter on "(V)HTR in detail – Design & safety approach" for a book on "Safety of Generation IV Reactors", to be published by JRC-IET (Euratom, Petten, the Netherlands), 2016 [October 2014 – May 2016].
- Member of Ph.D committee, Delft University of Technology, The Netherlands. Thesis title: "Core Physics of Pebble Bed High Temperature Nuclear Reactors" [22 December 2014].

Investigation, research & development activities:

- Partner of the Euratom Horizon 2020 project GEMINI+, responsible for core neutronics design [September 2017 - August 2020]
- Contribution to final report of the RECREATE project of the EU 7th Framework Program. Topic: Assessment of the feasibility of a cruiser aircraft with nuclear propulsion in a new cruiser-feeder system of air transport [October 2014 – January 2015].

Education, training & course development activities:

- Lecturer in IAEA Training Course on High Temperature Gas-cooled Reactor Technology, Serpong, Indonesia. Topics: "Design and safety approach of HTGRs", "Software for HTGR – A high-level perspective" and "EU/Euratom projects on HTGR" [19-23 October 2015].
- Course lecturer for nuclear reactor kinetics in training courses of NRG, Petten, the Netherlands [May/June/November 2016].

Institute/company: NRG, Physics & Metrology team  
 Period: February 2006 - October 2014  
 Location: Petten, the Netherlands  
 Position: Senior consultant – Nuclear Reactor Physics

Main duties and responsibilities:

- Responsible for review & advice, investigation, research & development, project coordination & project management and education, training & course development in the field of nuclear reactor physics & fuel cycle, nuclear safety and criticality safety.
- Acquisition of new projects (e.g. within the Euratom Framework Program).

Main activities:

- Member of the Reactor Safety Committee of the Petten (NLD) research site, as expert in nuclear reactor physics and space-time kinetics as well as nuclear criticality safety. This Reactor Safety Committee advises the managements of NRG, ECN and the Institute for Energy and Transport (IET) of the Joint Research Centre (JRC) of the Commission of the European Communities (CEC) in all matters concerning (nuclear) safety of the nuclear installations at the Petten research site, including (experiments in) the High Flux Reactor (HFR), the Hot Cell Laboratories (HCL), the Molybdenum Production Facility (MPF) and the Waste Storage Facility (WSF). Assessment of many design and safety reports related to these matters [January 1994 – August 2014].
- Coordinator of the PUMA ("Plutonium and Minor Actinides Management in Thermal High-Temperature Reactors") project of the Euratom 6th Framework Program (EC contract no. FP6-036457; Total budget: M€ 3.7; 15 partners from the EU, 1 from the USA; see [ftp://ftp.cordis.europa.eu/pub/fp6-euratom/docs/20101105-puma-1006-d411q-publishable-final-activity-report-nrg-104869\\_en.pdf](ftp://ftp.cordis.europa.eu/pub/fp6-euratom/docs/20101105-puma-1006-d411q-publishable-final-activity-report-nrg-104869_en.pdf)) [January 2006 – December 2010].
- Teacher of nuclear reactor physics and kinetics in courses on Nuclear Technology of NRG (for internal and external students), as well as in basic training courses for nuclear reactor operators for research reactors and nuclear power plants [January 1995 – October 2014].

Institute/company: NRG, Physics team  
 Period: January 2001 – January 2006  
 Location: Petten, the Netherlands  
 Position: Task Manager Reactor Physics

Main duties and responsibilities:

- As Task Manager responsible for the daily management and coordination of activities related to nuclear reactor physics within the Physics team (approx. 3 colleagues).
- As (Senior) consultant and project leader responsible for review & advice, investigation, research & development, project coordination & management and education, training & course development in the field of nuclear reactor physics & fuel cycle, nuclear safety and criticality safety.
- Acquisition of new projects (e.g. within the Euratom Framework Programs).

Institute/company: NRG, Physics team  
 Period: October 1998 – January 2001  
 Location: Petten, the Netherlands  
 Position: Research Scientist

Main duties and responsibilities:

- Responsible for investigation, research & development, review & advice, project management and education & training in the field of nuclear reactor physics and nuclear safety.

Institute/company: ECN, Business Unit Nuclear Energy (May 1992 – October 1998)  
Period: May 1992 – October 1998  
Location: Petten, the Netherlands  
Position: Research Scientist

Main duties and responsibilities:

- Responsible for investigation, research & development/review & advice/project management/education & training in the field of nuclear reactor physics and nuclear safety.

Institute/company: Interfaculty Reactor Institute, Delft University of Technology  
Period: January 1988 – May 1992  
Location: Delft, the Netherlands  
Position: Research Associate

Activities:

- Research (by computer modelling and simulations) on reactor physics and thermodynamics of gaseous core fission reactors and preparation of Ph.D thesis on this topic.

Period: March 1986 – August 1987  
Institute/company: Royal Netherlands Navy – Physics and Electronics Laboratory TNO  
Location: The Hague, the Netherlands  
Position: Navy lieutenant – Researcher

Activities:

- Fulfilment of military duty by research on and software development for passive towed-array sonar signal processing.

## ADDITIONAL QUALIFICATIONS & COURSES

Courses:

Title/subject: Simulator training in "Basiskurs Reaktorkunde für das Kernkraftwerk Borssele" (Basic course reactor operation for the Borssele nuclear power plant) (4 days).

Period/date: 2013.

Institute: Gesellschaft für Simulatorschulung mbH, Essen, Germany.

Title/subject: Opfriscursus Niveau 3 (Refresher course Radiation Protection level 3) (2 days).

Period/date: 2012.

Institute: NRG, Petten, the Netherlands.

Title/subject: "INIS Training Seminar 2011" (3 days).

Period/date: November 2011.

Institute: International Atomic Energy Agency, International Nuclear Information System (INIS), Vienna, Austria.

Title/subject: "DANESS" (system dynamics code for the holistic assessment of nuclear energy system strategies).

Period/date: 2004.

Institute: LISTO bvba/Argonne National Laboratory, Argonne, IL, USA; Luc Van Den Dorpel.

Title/subject: Leiding geven voor technische specialisten (Managing technical professionals) (3 days)

Period/date: 1998.

Institute: Intermediair Management Training, Amsterdam, the Netherlands.

Title/subject: Radiation Protection level 3 (1 semester of lectures; 3 days of practical training).

Period/date: 1984.

Institute: Interfaculty Reactor Institute, Delft University of Technology, the Netherlands.

Software tools

General: Unix/Linux; C-shell; Bourne shell; scripting; Fortran; Windows; Office (Word, Excel, PowerPoint), HTML5, Scilab.

Reactor physics: WIMS (versions 5-9) (ANSWERS Software Service, UK); PANTHER (ANSWERS Software Service, UK); THERMIX-DIREKT (FZ Juelich, Germany); SCALE (Oak Ridge National Laboratory, USA); FISPACT (UK AEA); DRAGON (Ecole Polytechnique de Montreal, Canada).

## AUXILIARY INFORMATION

Co-founder and volunteer of "Stichting Eline-de Cirkel is Rond" ("Eline Foundation"; <https://www.stichting-eline.org>). This foundation supports the education of youth in secondary education (lower and higher middle school) by small scholarships, focussing on the countryside of Fuling District, Chongqing Municipality, P.R. China [2008 – present].